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NATURAL DIVISIONS IN ECONOMIC THEORY.

IN a recent article in this Journal I called attention to the impossibility of dividing political economy into four distinct parts, by following the traditional plan of division. Production, distribution, and exchange are not distinct operations. I suggested a division of the science based on sociological evolution. According to this plan the first division contains universal principles, which hold true whether society is organized or not. It defines wealth and describes the varieties of it. It describes also the agents of production, and tells how they severally work in creating wealth, and under what conditions they work well. It contains, in short, the treatment of labor, of capital, and of the manner in which they combine to make the earth fruitful. It tells of the various kinds of utility that these agents are employed to create, such as elementary utility, form utility, place utility. It presents a law of variation in the productive powers of these agents, whereby, if one of them becomes comparatively abundant, then a single unit of it produces comparatively little, while, if one of them becomes scarce, a single unit of it produces a great deal.

This part of the science has nothing to say about hired labor or loaned capital; for these things depend on social organization, and the distinctive fact about this part of the science is that it contains no facts or principles that depend on social organization. It contains only a statement of what takes place wherever man subdues the earth, and makes it useful. It can have nothing to say about wages and interest as ordinarily understood; yet it presents a law by which wages and interest are determined,—a law, namely, of final productivity of labor and of capital.

In like manner this division of the science has nothing

to say about market value, since that also is a social phenomenon, and not a universal one. Nevertheless, it presents the principle according to which values are determined; for it is a universal fact that final utilities are small when commodities are abundant, and that they are large when such things are scarce. A sailor stranded on a rock, and with a single sea biscuit in his possession, is in a position to appreciate the high final utility of bread. If fish are abundant, he can also estimate the low final utility of fish. He has no chance to make exchanges, but the law according to which exchanges are made operates in his case with a full measure of force.

The second division treats of Catallactics. It adds to the universal phenomena whatever results from exchanges. It is a science of organized economy, and puts before the mind a picture of society as a single organization, working in its entirety to produce wealth, and apportioning it among its members.

The socialization of economic life arranges producers in groups and subgroups. What we here term a group produces one complete article, and sells it. High organization, however, prevents any one body of persons from producing an article in its entirety; for no one set of men gets out of the earth, as it were, the rawest materials that enter into the article and fashions it to completion. The general groups are divided into subgroups.

A'''	B'''	C'''	H'''
A''	B''	C''	H''
A'	B'	C'	H'
A	B	C	H

Let **A** represent a raw material taken from the earth, and let **A'** represent that material carried by one stage towards completion. **A''** will represent it near to completion, and **A'''** will represent it as quite ready for the consumer.

It may be that A is the skin of a live steer on a Western ranch, that A' is raw hide, that A'' is tanned leather, and that A''' is shoes. In like manner B is the raw material which ripens, through a similar series of changes, into B''', which is another article for consumption. C is a third raw material, and C''' is that material fully completed. H is the raw material that enters into the tools that are used in the various processes, and H''' is a complement of tools ready for use. Every one of the subgroups uses instruments and wears them out, and the H''' group supplies the waste.

We have now a severely simple picture of what is happening in the industrial world. The groups are innumerable, and they have their complexities; but the method of production and of distribution that is going on can be clearly described in terms of such a simple form of society as the one that our table represents.

In this second part of the treatise we are studying a static society. We want to know what happens in consequence of organization, and nothing else. We want to keep out of our minds what further happens by reason of changes that are all the while going on in society. If the A''' group is growing smaller and the B''' group is growing larger, that change and all the influences that cause it are to be studied; but the study does not come at this stage. There are problems enough in a merely static society to occupy us for a while. We must therefore practise the isolating method in a heroic way. We must bring before our minds all that happens in consequence of mere organization, and nothing that happens in consequence of change, growth, and progress in the organization.

We must study, then, a society that, in imagination, we have reduced to a static state. What are the conditions of that state? The sign by which we know it is simple. It is that labor and capital do not flow from group to

group, and from subgroup to subgroup. A''' does not grow smaller, and B''' larger. Where there is no change in the comparative sizes of the subgroups, society is static.

This, however, does not tell us what are the fundamental qualities of such a society. It gives us a mark by which we could know a static society, if we could ever find one. What we need to know, however, is why labor and capital do not move from point to point in the system. What is the cause of their stationary condition? It is not that their movement is obstructed: it is that they have no inducement to move. A unit of labor or a unit of capital is as productive at A as it would be at A' , or at B'' , or anywhere else in the group system. It can gain nothing by moving, and it stays where it is.

Perfect mobility on the part of the economic agents, without any movement, is characteristic of the static state. We cannot here describe it with any completeness. The lack of movement is due to a certain uniformity in the productive power of each of the two agents of industry in the different parts of the system. It is this that brings about a state of "natural values." Representing the producing groups in such a condition as this really describes what the classical economists had in mind when they said that everything tends to sell at its cost of production. If A''' as a whole sells for just what it costs the *entrepreneurs* to produce it, and if B''' and C''' do the same, and if the particular utility that each subgroup creates also brings to the *entrepreneur* just what it costs him to create it, then all values are natural.

Cost values for everything really involve, in the end, uniform wages and interest. It is conceivable that, for a time, A''' might be a scarce and high-priced article. The production of this article would then be stimulated, and the price would be reduced. It is also conceivable that, for a time, wages in the group A''' might be high. That would mean, however, that *entrepreneurs* in the A'''

group could gain something by hiring laborers out of the B''' and the C''' groups ; and they would be quick to do it, so long as the difference in wages continued. There is always an inducement to create more of an article when the price of it is high ; and there is also an inducement to import labor into the group in which wages are high. The complete adjustment which the early economists really had in mind is never completed until, first, every article sells for its cost, and, secondly, the cost of the agents of production, labor and capital, is uniform throughout the system. One employer pays as much for labor of a given grade as does another, and they all pay the same rate of interest.

A static society, then, is in a no-profit state ; and it is a state of uniform productivity for labor and of uniform productivity for capital. These conditions account for the absence of movement between the groups. They tell us clearly why labor does not go from A''' to B''' or elsewhere. There is a universal equilibrium. The inducement to move labor or capital in one direction equals the inducement to move it in any other direction. Each unit of labor remains *in situ*, and each unit of capital does the same.

If we had time further to describe this static condition, we should reveal a number of things about it that are essential to the understanding of the dynamic state. The classical economists presented, under the head of natural values, an incomplete conception of a static society. If they had gone far enough, they would have discovered the law of Wages and Interest in the same way. Values are natural, in the classical sense, when nobody makes a profit, and when labor and capital are as productive in one place as they are in another. Wages are natural, if, in this condition, labor gets exactly what it creates. Interest is natural, if capital also gets what it creates.

If a régime of equalized productivity is also a condition

of naturally rewarded productivity,—if it is a condition in which labor gets, as wages, exactly what it creates, and in which capital gets, as interest, exactly what it creates,—then the conception of a static state is complete. There are no profits in such a state, and there is no movement of the economic agents from point to point in the system. By these signs we know it.

Of course, we cannot here go into the proof that such a state as the one that we have just described is in fact the one towards which, at every point, society is tending. A volume on Social Economic Statics should furnish the proof of this fact. What we are trying now to accomplish is to show what is the content of the second division of economic theory, where the science is divided in the manner that we have suggested. It discusses Values, Wages, and Interest in a static condition of society. It discusses Profits, to the extent of showing that in a static condition there are none. The task is completed when it has done these things. It rigidly keeps out of sight change, movement, friction, disturbance, reorganization,—everything that comes under the head of Dynamics.

We now undertake to say, in a general way, what is the content of the third division of economic theory. It occupies itself with those changes which the static division omits. It describes variations in which actual life abounds. If we are to describe it within any brief compass, we shall have to assume that our theory of economic statics is the true one, and that profits do tend to vanish, that values do tend to adjust themselves to cost, and that wages and interest do tend to adjust themselves according to the specific products of labor and of capital.

Even if we were wrong in these assumptions, there would still have to be a static division of the science, and also a dynamic one. If values, wages, and interest did not tend to conform to the standards that we have here de-

scribed, they would certainly tend to conform to some standards ; and any standards that they could attain, and that, in the absence of social changes, they could hold, would be static ones. We shall assume that our theory is correct, and that cost values, on the one hand, and productivity wages and interest, on the other, tend universally to prevail. We shall assume that, if we could stop the progress of the world, and let competition act in ideal perfection, society would take the static shape and hold it forever.

Five comprehensive changes would have to be brought to an end, in the actual world, if this were to happen. First, labor and capital would have to stop increasing in quantity. The population of the world, the amount of its accumulated wealth, would have to remain forever fixed.

Secondly, methods of production would have to stop changing. We should have to put a quietus on inventive activity. Let there be no new kinds of productive machinery. Let the earth be tilled forever in the manner in which it is tilled to-day, and let the shops and the mills go on forever doing exactly what they are now doing, and in precisely the same manner. Let there be productive action, but no change in the mode of this action.

Thirdly, there would have to be no change in the relations that men sustain to each other in the process of organized production. The big establishment would have to stop swallowing the little one ; and this involves the condition in which there are no little ones surviving, except those which, for local reasons, can hold their own in competition with larger ones.

Fourthly, there must be no changes in the character of the wants to be gratified. Humanity must stop that mental progress which forever multiplies and refines its wants, and makes it necessary to produce things in ever-increasing variety. In the static society the quantity of the productive agents, the method of their action, the form of

their organization, and the wants that they supply are fixed. With either one of these elements changing, the régime of cost values and of uniformity in the product and the pay of labor comes to an end.

The static state is imaginary. It is like the level of surface of the sea that, in an imaginary way, we can project through the waves on a stormy day. If the winds were to stop, the sea would actually take a level and glassy surface; and this would correspond, in height and form, to the static surface that we have imagined. So, if economic changes and disturbances were to cease, the producing groups would take the static adjustment that theory calls for; and, as we have said, the test peculiarities of that adjustment are these: values would always correspond to cost; there would be no profits; wages would be uniform in the different groups; interest would be uniform; wages and interest would correspond accurately with the products that can be severally attributed to labor and to capital.

In the actual condition in which dynamic influences have left the world there can be no general correspondence of values and costs. Even the costs of one article, as it is produced by different *entrepreneurs*, are not uniform. In every subgroup there are establishments that are creating the product more cheaply than others can make it. With the same market price for the article some establishments run at a profit, and some at no profit. A few may be running at a loss. Which of the various costs is the one towards which values are tending? It is certainly not the costs in the poorest establishments; for these are losing money, and must soon reduce their costs or get out of the field. It is not the cost of the no-profit establishments; for these, unless they change their methods, will soon be in the same condition,—that of being obliged to stop running. The better establishments are increasing their output of goods and lowering the

prices, and this will soon make the no-profit establishments to become losing ones. The establishment that makes no profit to-day will incur a loss later, and will stop running altogether still later. This is one type of change that is going on in a dynamic state.

The standard towards which prices are tending is not even the present cost in the best establishment; for this establishment is steadily enlarging its output, and with the enlargement itself there comes additional cheapness. It is the cost that will be incurred in the best establishment, when that shall have enlarged its output to the full extent called for by static law. Let improvement in methods cease; let all other dynamic changes cease also; let a limited number of the better establishments in each group gather to themselves nearly all the business of that group; let smaller establishments survive when they can cater to a certain local business and secure a certain additional price; let costs everywhere equal values; and let values, for a particular product in a particular place, be uniform. Then we shall have reached the static adjustment towards which the actual and practical world is, under mere competition, tending.

It is prevented from ever reaching that state. Let us see how this occurs. Let us take a single one of the disturbances that makes society dynamic, and trace its effects. Let us suppose that a mechanical invention occurs, and that it multiplies the product of labor. It yields a profit to the establishment that first uses it, but this profit is held by a precarious tenure. It will vanish when the output of the goods shall have become so large that the price of them will conform to the new and reduced cost. Establishments having inferior methods will then have disappeared.

What will have become of this profit? In common language, it is said it will have given itself over to the public in the shape of cheaper goods. Another way of saying

the same thing is that it will have added something to the value of all other products. When the output of A''' is doubled, the value of B''' and that of C''' are, by so much, increased. Labor and capital in B''' and C''' are virtually producing more wealth than they were doing, though they are producing the same amounts of goods. Moreover, labor and capital even in A''' are producing amounts that conform to the increased products in B''' and C'''. All labor and capital are, therefore, more productive than they were before. The profit that has vanished, under the influence of competition, has accrued entirely to laborers and capitalists. It is an increment of wages and interest. In disappearing as a profit, it has increased the pay of every workman and capitalist in the system.

How can the *entrepreneurs* perpetuate their gains if they have no monopoly? They can only do it by continuing to make improvements in the processes of production. Economy must follow economy, if the gains of *entrepreneurs* as such are to be anything. By a perpetual series of improvements the *entrepreneurs* may have an income that will continue, as it would do if they made only one improvement and had a monopoly of it. A perpetual series of such improvements will keep the costs of goods below their selling prices. It will keep costs tending always downward, and prices pursuing them. The prices will never catch up with the costs in the downward movement.

There are innumerable problems here that we have not time even to state. It is unlikely that the series of improvements that perpetuates profit will long continue to be made by a single establishment. In the race for economy, one *entrepreneur* will get ahead, then another, and then another. The profits of one establishment may vanish, and yet a surplus gain of this kind may always exist somewhere within the subgroup to which that establishment belongs. Moreover, it is conceivable that all profit

might vanish within a subgroup, at a particular date, and that it might reappear later. Profits then might be intermittent: they might disappear, and appear again. At the vanishing-point, values would momentarily correspond with costs; but, with the next further economy in production that should be made, costs would get ahead of values in the descent.

As a rule, profits vary from time to time in amount, but always exist somewhere within a producing group. Profit from any one cause vanishes, and adds itself to wages and interest; but profit, as a variety of income, perpetuates itself by an endless series of improvements.

This means increasing gains for labor. Wages at this moment are not so high as they will be when the profit that exists at this moment shall have added itself to wages and interest. By the time that that shall have been done, moreover, a new profit will have come into existence, calling for a further rise in wages.

The dynamic standard of wages, then, is an endless series of static standards, each one of which is higher than the preceding one. The standard of pay for labor is rising; and the actual rate of pay is pursuing it, but is always, by a certain interval, behind it. Dynamic science studies the interval and the rate of movement. It tells why the standard rises, why the actual rate pursues it, and why it does not overtake it.

The rate of interest would also be a rising one if economies in production only were to be considered; but, by profits and otherwise, great quantities of new capital are coming into existence, and this overcomes the influence on the rate of interest which improvement alone exerts. The *amount* of interest increases, like the amount of wages; but the rate of interest tends downward. This downward tendency, however, is the result of a second dynamic influence, and one that we are not now considering. If there were nothing to be studied except improve-

ments in method, both the rate of wages and the rate of interest would be forever pursuing rising standards, though the two standards would rise with different degrees of rapidity.

The origin and the destination of profit is one chief subject of Economic Dynamics. That science, if it were complete, would examine *seriatim* the various changes that bring profit into existence, and the mechanism by which, under the influence of competition, that profit is ultimately diffused throughout the whole of society. It would study the effects of this diffusion on wages and interest.

We have said that the interval between the actual rate of wages and interest and the standards towards which they are tending is a subject for such a science. So is the rapidity with which the standards change. In these studies disturbances and friction have to be considered. Everything that interferes with the creation of normal profit, and everything that checks the diffusion of it and renders the increase of wages and interest smaller than it would otherwise be, is to be included in the scope of the theory. Monopolies and *quasi-monopolies* act in this way. A fluctuating and untrustworthy currency does so. Unintelligent import duties and bad taxes generally do the same thing, and so do many other influences.

It is to be noted that the plan of division that we have here suggested applies primarily to the pure theory of Economics. Whenever, for purposes of convenience, it is desirable to separate the treatment of such practical questions as the currency, the tariff, taxation, from the treatment of Economic Theory, and to present each one in a book or a part of a book by itself, then each one of these practical questions may be treated, first, in a static way, and then in a dynamic way. In connection with the currency, for example, it is possible to assume, first, that society is generally in a static state, and that the volume and the quality of the circulating medium remain unchanged.

The static laws of currency may be completely examined under this hypothesis. Then changes in the volume of the currency and in the volume of business may be introduced, and the effect of such changes may be noted. The treatment of particular practical questions may thus be isolated, and each question may be discussed by itself; or, on the other hand, the static phase of such a subject may be discussed in the general division of Static Economics, and the dynamic phases may be treated in connection with Dynamic Economics. Under this latter plan the whole of economic science, theoretical and practical, would arrange itself in the three divisions that we have suggested. There is, however, much latitude admissible in discussing particular questions of applied science. What is clear is that each of these questions must, in some way, be treated first statically and then dynamically; and what is further clear is that none of them can be treated intelligently and completely, unless the treatment is preceded by the study of Economic Theory, both static and dynamic. It is the pure theory alone that we have had chiefly in mind. A natural arrangement of this branch of the science, as we claim, presents: first, the universal principles; secondly, the static principles; and, thirdly, the dynamic principles.

We have stated that five comprehensive changes constitute the dynamic movement. The theory of Dynamic Economics must study each one of these generic movements separately; and it must then study them in combination of each other, and see what resultant effects they all produce. This involves a myriad of detailed studies that we cannot even specify. Dynamic science is limitless.

Some of the most important applications of this theory have reference to the relation of different parts of the world to each other. We have spoken of society without defining the limits of it. Does it mean the whole world? In a sense, it does so, since there is no part of the inhabited

earth that could be turned into a desert or sunk beneath the sea, without producing effects that would be felt in every other part of the world. This interdependence goes to make the whole world a society. Yet, if society includes all men, it is certain that some of them are very slow to feel the effects of economic influences that originate in quarters remote from where they live. A profit created by a Yankee invention does not, within any time that we have to consider, raise wages perceptibly in equatorial Africa. We are studying and are obliged to study effects that are realized within short periods; and, therefore, we have to draw some limits around the society that we are describing.

On what lines does this delimitation of society proceed? The world is, in fact, divided and subdivided in a very complex way; but, for the purpose of illustrating dynamic laws, a very simple division may be made. There is an economic centre of the world. The distinguishing thing about it is that competition is very active within it. Labor and capital move to and fro readily, and profits that originate anywhere within this centre produce their effects, in raising the pay of all laborers and capitalists, within relatively short periods.

Around this centre there is an outer zone, which is separated from the centre by certain barriers. Competition within this zone is comparatively sluggish, and competition between this zone and the centre is particularly so. Labor and capital do not readily migrate across the boundary. Methods of production originating within the centre are not readily assimilated in the outer zone. It is a long time before the profit realized by the *entrepreneurs* of the central area affects workmen and capitalists in the outlying area; yet in the end it does reach them. Labor and capital do migrate across the boundary. Methods are, now and then, assimilated. An invention made in the highly civilized region will, sooner or later, affect the

economy of the less advanced one. If we could wait long enough, we should perhaps see a large number of the improvements that have recently been made in productive processes adopted within that zone in which the processes are now much more primitive.

Beyond this outer zone there is an outermost area,—the unlimited remainder of the world. Between this outermost area and the central one there will be, within any period that we care to consider, no connection except a trading one. Trade between the centre and the outermost area is particularly profitable, for the industries of the two sections are of widely different types; but within the period to which we limit our studies there will be no other connection of any importance between these areas.

A peculiarity of this rude mode of division of the economic world is the fact that the boundary lines are not fixed, but are forever extending. The centre is annexing belt after belt of the outer zone, and the outer zone is annexing belts of the outermost zone. Ultimately, perhaps, in that dim and distant period in which dynamic law shall have absolutely completed its work, the centre may have annexed the whole of the outer zone; and this outer zone itself, as thus annexed, may have already included all of the outermost area that is capable of annexation.

The economic centre of the world would, in this case, include the whole temperate area of the inhabited globe, in both hemispheres; while the unassimilated remainder of the world would be contiguous to the equator and to the two poles.

The graphic arrangement of the world in concentric circles or zones is, of course, a mere figure. It is designed to express the thought that some parts of the world are very intimately associated with each other, and other parts are divided from these parts by something that makes economic influences in the former parts less efficient in the latter. Very irregular is the geographic shape of what

we have called the economic centre of the world, and still more irregular are the shapes of the outer parts of it.

The most characteristic fact about these zones is that profit may originate and diffuse itself again and again in the central area before making much impression elsewhere. If we follow the effect of a particular profit, originating, for example, in the invention and use of a particular machine, we shall find that it is, at first, held by certain *entrepreneurs*. They hold it, as we have said, by a precarious tenure. Soon it will be an addition to wages and interest within the central area. Laborers and capitalists here, however, in their turn, hold this gain by a precarious tenure. That slow action of the economic law by which influences from the centre make themselves felt in the outer zone will, in the end, give the laborers and capitalists there a share of the benefit. Long before that has happened, however, further improvements will have been made; and they will have raised wages and interest within the centre to a still higher level.

Already, then, we see three divisions through which profit must pass. It is, first, a gain in the hands of *entrepreneurs* within that economic section where improvements originate. It is, next, the increment of wages and interest within that same section. It is, thirdly, made to become in part an increment of wages and interest within the outer section.

Profit can only perpetuate itself by means of an endless series of improvements. We leave monopoly, for the time, out of mind, and in doing so can find only one way in which the *entrepreneurs*, as a class, can perpetuate their income. It is by making a new economy in production before the fruits of earlier economies have entirely gotten away from them.

The premium on wages and interest in the central area, which keeps them above wages and interest in the outer zone, may be called *quasi-profit*. It is the *entrepreneurs'*

gains as surrendered to the laborers and capitalists in a favored region. These classes hold each particular part of the *quasi-profit* transiently. Sooner or later the laborers and capitalists of the surrounding area will share it with them; but this does not mean that, in the whole great area, wages and interest will ever be at a level. *Quasi-profit*, like profit itself, may exist forever by means of an endless series of accretions.

Here, then, are two permanent incomes, each specific part of which is held only transiently. *Entrepreneurs* cannot long keep a particular profit. Workmen and capitalists cannot forever keep a particular gain when it has become a *quasi-profit*. Nevertheless, *entrepreneurs* will never be without profit; and laborers and capitalists of the centre need not ever be without *quasi-profit*. It is all a question of leadership in the economic advance that the world is making. The competing *entrepreneurs* that keep ahead of others in the race for improvement may have surplus gains forever. The regions of the world that keep ahead of other regions may have surplus gains forever.

There are innumerable questions to be solved concerning the relations of the great areas of the world to each other, and the changes that are taking place in those relations. Particularly, at this date, are there questions of much importance concerning the relation of the economic centre to the very outermost areas of organized life. Governments are taking action that vitally affects these relations. A mere enumeration of the detailed problems that this presents would make an article of considerable length. It is enough, however, for our purpose, if we have described the character of the work that properly belongs: first, to the Universal Economic Theory; secondly, to the theory of Economic Statics; and, thirdly, to the theory of Economic Dynamics.

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